

SEQUENCE LISTING

SEQ ID NO: 1

ABH1 cDNA sequence:

5 AAAGAGACGAACTGAAGAAAAACCTCTCGGAAGAAGATGAGCAATTGGAAAAC
TCTTCTCCTTCGCATCGGCGAAAAGGGACCTGAGTACGGCACTTCCTCCGACTAC
AAAGACCACATCGAGACTTGTTCGGTGTCAATTCGTAGAGAAATCGAGCGTTCTG
GAGATCAAGTTTTGCCTTTTCTACTACAATGTGCTGAACAATTGCCTCATAAGATT
CCTTTGTATGGGACTTTGATTGGTTTGTGAACTTGGAGAATGAAGATTTTGTCCA
GAAGCTAGTAGAAAGTGTCCACGCTAATTTCCAGGTCGCTTTAGATTCTGGCAAC
10 TGCAACAGTATCCGTATATTGCTTCGCTTTATGACTTCCCTGTTGTGCAGTAAGGT
TATTCAACCTGCTTCTTTGATTGTCGTCTTCGAAACATTGCTATCATCTGCTGCCA
CTACTGTGGATGAAGAGAAAGGAAATCCATCATGGCAGCCACAAGCTGACTTTT
ACGTTATATGCATCTTGTCCAGCCTCCCGTGGGGAGGATCAGAACTCGCTGAGCA
AGTTCCTGATGAGATTGAAAGAGTGTTAGTTGGGATACAAGCTTATTTGAGCATC
15 CGAAAGAATTCTTCCACCTCTGGGTAAACTTTTTTCAACCGGAGAATTTGAAA
GCAGCCTTGCAGAGAAGGATTTTCGTGGAGGATCTATTGGATCGAATTCAGTCTCT
GGCTTCCAATGGATGGAACTTGAAAGCGTACCTAGGCCTCATCTCTCGTTTGAA
GCTCAACTCGTTGCTGGAAAGTTTCATGAGCTACGTCCCATTAATGTATGGAAC
AACCGAGTCCACCTTCTGATCATTCGAGGGCATAACAGTGGCAAGCAAAAGCATG
20 ATGCATTGACGAGATATCCCCAGAGAATTCGTAGGTTGAATATATTTCCAGCTAA
TAAAATGGAGGATGTACAACCAATTGATCGTTTTGTCTGGAGGAGTATTTGCTG
GATGTGCTCTTCTATTTGAATGGATGTCGGAAGGAGTGTGCATCCTACATGGCTA
ATCTTCCTGTTACATTTCCGGTACGAGTATCTTATGGCAGAGACACTATTTTCTCAG
ATACTGCTGCTACCCCAGCCACCATTCAAGACTCTTTATTATACACTCGTGATTAT
25 GGATCTTTGTAAGGCTCTTCCGGGTGCCTTTTCTGCTGTTGTTGCTGGCGCTGTTT
GTGCACTATTTGAGAAAATATCCGACTTAGACATGGAATCCAGGACGCGTCTTAT
CCTCTGGTTTTTCTCACCCTTATCCAACCTCCAATTTCATCTGGCCGTGGGAAGAGT
GGGCTTTTGTGTTGGATCTTCCCAAGTGGGCCCTAAGCGTGTATTTGTTTCAGGA
GATTTTGCAAAGAGAGAAGTACGCTTGTCTTACTGGGATAAAATTAAGCAGAGCATT
30 GAGAATGCGACTGCCCTAGAAGAATTACTTCCTCCAAAAGCTGGTCCGAATTTTA
TGTATTCCTTGAAGAAGGTAAAGAGAAAACAGAAGAACAGCAATTGTCAGCCG
AATTGAGCAGGAAGGTCAAGGAAAAACAAACCGCACGTGACATGATAGTGTGG
ATTGAAGAAACGATATATCCAGTTCATGGTTTTGAAGTTACTCTTACAATAGTTG
TACAGACCTTACTTGACATCGGATCAAAAAGTTTCACTCATTTGGTCACTGTCCT
35 GGAGCGATATGGCCAAGTATTTTCAAAGCTTTGTCCTGATAACGATAAGCAGGTG
ATGCTATTATCTCAAGTGAGTACATACTGGAAAAACAATGTACAAATGACGGCG
GTGGCAATTGATAGGATGATGGGTTATAGACTAGTATCTAATCAGGCAATTGTTA
GATGGGTGTTCTCTCCAGAAAATGTTGATCAGTTTCATGTGTCTGATCAGCCATG
GGAGATACTTGGCAATGCTCTTAACAAGACTTATAACCGTATCTCTGATTTGAGG
40 AAAGATATATCAAACATTACGAAAAATGTTTTGGTTGCTGAGAAAGCTTCAGCCA
ATGCACGAGTAGAGTTGGAGGCTGCTGAGAGCAAACCTTCCCTAGTGGAAGGTG
AACCCGTTCTTGGTGAGAATCCAGCGAAGATGAAGCGTTTAAAATCAACAGTGG
AGAAGACAGGGGAAGCGGAGTTATCTCTTCGGGAGTCCCTAGAGGCAAAAGAGG
CTCTTCTTAACAGAGCTCTCTCTGAGACCGAGGTTTTACTGCTCTTGCTGTTCCAA
45 AGTTTCTTAGGTGTACTGAAGGAACGGCTCCAGATCCAATAAGTGAGATCA
GTGCAGGATCTAAAATCTATAGGTGCTGAAGATGACAAGCCATCTGCGATGGAC
GTGGACAGCGAGAATGGAAACCCAAAGAAGAGTTGCGAAGTCGGTGAGAGAGA
ACAGTGGTGCTTATCAACACTTGGCTATCTCACGGCATTTACAAGGCAATATGCG
AGCGAGATATGGCCTCACATGGAGAAGTTGGAGTCAGAAGTGTTCTCGGGTGAA
50 GATGTGCATCCTCTCTTCTCCAAGCCATATCTTCTGCACTTCAATTCCCATTACA

TTAATCTTCCTCTTTCAATCTCAATCAAACCTGTCTCTTTTGTGTTTTTGTATGAGA
 TTCTGATTCTGACATCAAGTTATTAGGAAATTGAAAAGAGTCAAAAAACAAGAgT
 TTAAACTTTAAAAAAAAAAAAAAAAAAAA

5 SEQ ID NO: 2

ABH1 Protein sequence

MSNWKTL LLRIGEGKPEYGTSSDYKDHIETCFGVIRREIERSGDQVLPFLLQCAEQLP
 HKIPLYGTLIGLLNLENEDFVQKLVESVHANFQVALDSGNCNSIRILLRFMTSLLCSK
 VIQPASLIVVFETLLSSAATTVD EEEKGNPSWQPQADFYVICILSSLPWGGSELAEQVPD
 10 EIERVLVGIQAYLSIRKNSSTSGLNFFHNGEFESSLAEKDFVEDLLDRIQSLASNGWKL
 ESVPRPHLSFEAQLVAGKFHEL RPIKCM EQSPSPSDHSRAYSGKQKHDALTRYPQRIR
 RLNIFPANKMEDVQPIDRFVVEEYLLDVLFYLN GCRKECASYMANLPVTFRYEYLM
 AETLFSQILLLPQPPFKTLYYTLVIMDLCKALPGAFPAVVAGAVRALFEKISDLDMES
 RTRLILWFSHLSNFQFIWPWEEWAFVLDLPKWAPKRVFVQEILQREVRLSYWDKIK
 15 QSIENATALEELLPPKAGPNFMY SLEEGKEKTEEQQLSAELSRKVKEKQTARDMIVW
 IEETIYPVHGFEVTLTIVVQTL LDIGSKSFTHLVTVLERYGQVFSKLCPDNDKQVMLLS
 QVSTYWKNNVQMTAV AIDRMMGYRLVSNQAIVRWVFSPENV DQFHVSDQPWEILG
 NALNKTYNRISDLRKDISNITKNVLVAEKASANARVELEAAESKLSLVEGEPVLGENP
 AKMKRLKSTVEKTGEAELSLRESLEAKEALLNRALSETEVLLLLLLFQSFLGVLKERLP
 20 DPTKVRSVQDLKSIGAEDDKPSAMDVDSENGNPKKSCEVGEREQWCLSTLGYLTAF
 TRQYASEIWPHEMEKLESEVFSGEDVHPLFLQAISSALQFPLH

SEQ ID NO: 3

1250 bp *ABH1* genomic sequence containing the promoter

25 GAAAGGGAAACTCAGCCAGCCTCGGTAAAAACATCTTCTTCTGTTTGCCTTTCTC
 TTGTAATGATCTCACATCATGTTTGATGGAATCTAAGACTTTGGATGGGCATCTA
 TTTTATCATGAGTTAATCTTTGACACAAGAAACATCTCTTTCTAATCTGTTTCATA
 GTCAAAAGAAATTGTGACAACTTCACCAGATGGAAGTTGTACCTCTTTATTGTTA
 CGAAGTGGATTGGCGACATGAAACAAAACCCGAACACGAACATAGTCCTGAAAC
 30 TGTGATTTTTTCAGAGTCCATCACCACCTCCTTCACTTCCCCAATACAGCTCGTGAT
 CTCTTTAATTGTGTCCTGAGTATAATAGTTCACCGAAATATTCCTCACTCGACCCC
 AGATTGGAAGAAAATTCAGATAATCAATTGGAGGATTCTCAATCCATCTATCCAT
 GACTACACCCCAATTTATCTTCTGTCCAACTCCAATTTTCATAATTTCTTCTAAA
 TCTTCTCAGATTTGAAGAAAAAATTGGAATCGATCCTTTGAGAGAGCAACACCTC
 35 TAACCCGAGAAGAAATTCTCCAAATTCGTGGCATATCTAATATCCAATTAGACAT
 CCTTTGATTCTCTAGATTCAAAAACCTACCCAACTAACGACAGTTGTTTCTGTAA
 TTGAACAAAAGCGCGGTTGATCAGAAAGAATCAGAGGCTTATTGTCTTAAATCG
 ACATATTCTGAATGGCTTTATCCAGCTCCATGATGAGATCCTGATAGAGAGTAAA
 CAACTTTCCCGAACTCGTCAAACCTGATTTGCAGGAAACAAACTCCAAGAGAAA
 40 AAACAGTGAAGAAATCCGAGTAATTCAGATGATAACCAACACAGA ACTGAGAAT
 CACAAAGCAA ACTCTCGTAAACAGAGAAAGAGTCAGAACTACCAAAAATCCGAGG
 AAGAAAACAACAATTTAGACCGGACCGAACACGTAAATATTTCTGGTAGAAGCT
 CCGTTCAGAATAGAACACCTGAGAGAAAAGTCTTTAGGCTCCAAATTA ACTGGG
 ACGACTATTGTTTTAACGGCTAGTTTCAGCTACTAAGAGAAAGAAGAGAGAGAA
 45 AA ACTTTTTGTCAA ACTCTTTTTGTGAACTCCTTTTCTTAGATGACAACACTTATG
 AGAAAAA AAAAAAAAAAATTAGTTTTGACGAGACACGGACATAAAAAAAAAAAC
 TAGGGCAGAGTGACTGATACCAAAGGAGAAACAACAAAGAGACG

SF 1205702 v1